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China Crop Environment Brief: 1977

First Report, June 1977

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June 1977

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FOREWORD

(U) This is the first in a series of China Crop Environment Briefs which are being prepared to assist in the refinement of crop production estimates of the Peoples Republic of China. These all-source experimental analyses will be produced monthly through early December 1977. Additional ad hoc briefs will be prepared as warranted by developments. The scope and format of the briefs may vary according to the nature of conditions reported and the perceived utility of the findings.

(U) Within the CIA, cooperative efforts of the Environment and Resource Analysis Center (ERAC) of the Office of Geographic and Cartographic Research and the China Division of the Office of Economic Research facilitated the preparation of this brief. In addition, informal consultations were held with the Foreign Agricultural Research Service, U.S. Department of Agriculture. The brief was written by a multidisciplinary team housed in ERAC -- composed of personnel from both CIA organizations -- representing the disciplines of geography, economics, agronomy, and meteorology.

METHODOLOGY

(S) All intelligence sources -- [redacted] 25X1D
25X1D [redacted] meteorological data as well as traditional sources such as human intelligence reporting, translations, and the open literature -- are being exploited to produce integrated crop environment analyses. The combination of methodologies used is evolving and will be refined and expanded as experience is accumulated and new data inputs become available. A more complete statement of the methodologies employed will be published later.

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Key Points

(S) Environmental conditions through May 1977 indicate generally favorable prospects for crop growth this year in the Peoples Republic of China, despite widespread reporting of drought in many provinces.

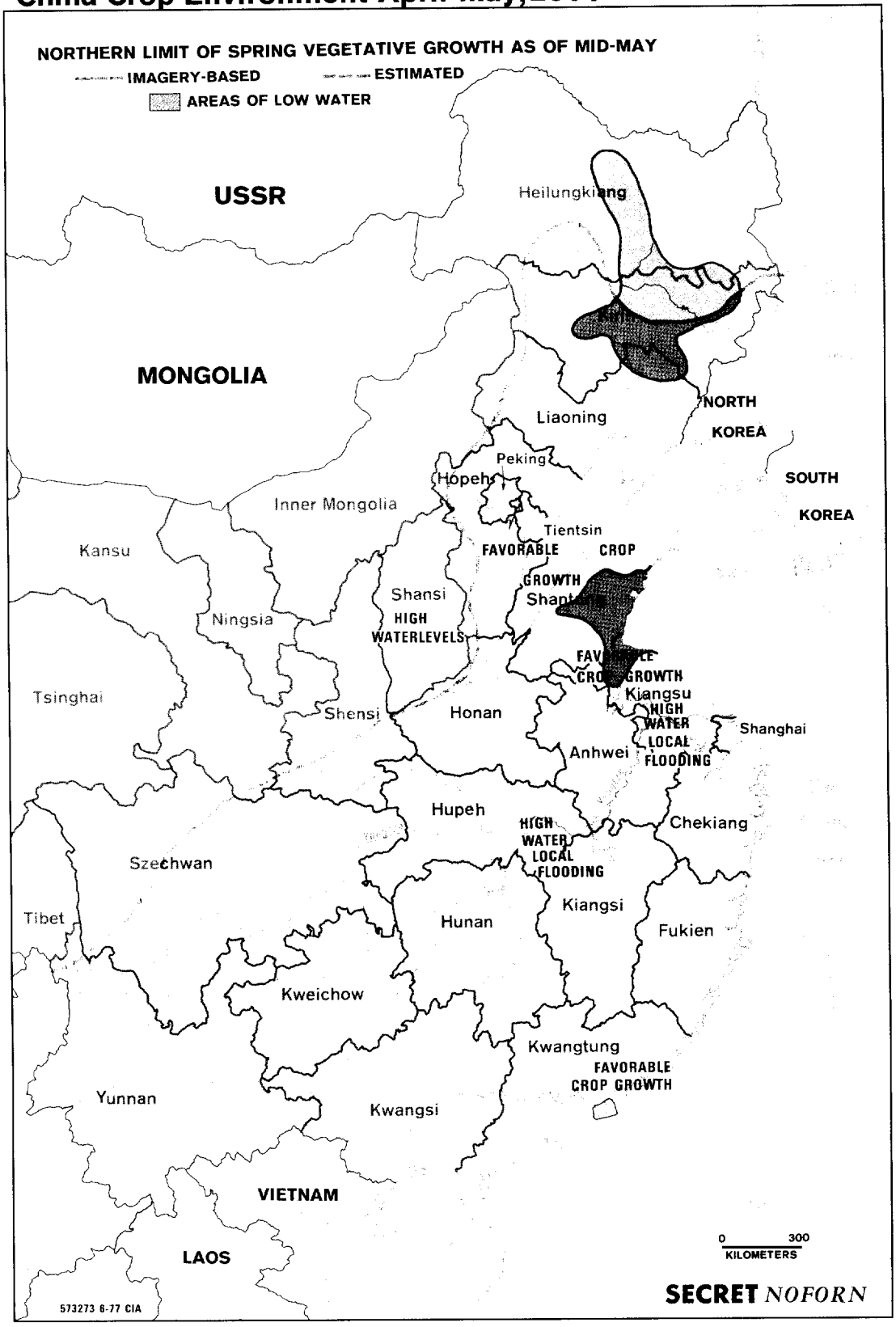
- Favorable crop conditions were observed in northern and western Shantung, and parts of Hopeh, Honan, and Kiangsu Provinces as of mid-May.
- Drought-affected areas remain in parts of Heilungkiang, Kirin, and southern Shantung Provinces.
- Open Chinese statements reported serious drought in Anhwei Province -- mainly in the north -- but fragmentary evidence (primarily imagery) indicates favorable growing conditions and areas of high water in the southeastern part of the province.
- Field observers, traveling by rail in April and May, crossed many of the major crop-growing areas and reported generally good crop conditions in the lowlands, although many areas of upland crops were suffering from low soil moisture.

NOTE: This paper was produced by the Office of Geographic and Cartographic Research. Comments and questions may be directed to [redacted] *Code 143, extension 2097.*

25X1A

China Crop Environment April-May,1977

Figure 1



Details

(S) Crop environmental conditions through the end of May 1977 are graphically summarized on Figure 1. Winter crops had come out of dormancy and vegetables were growing well by mid-April in the Shantung and Hopeh Provinces portions of the North China Plain. Crop growth had begun by mid-May in northern Hopeh and Liaoning Provinces, and spring-sown crops were beginning to show infrared reflectance from vegetation in Kirin and southern Heilungkiang Provinces. Favorable crop conditions during mid-May were evident throughout the North China Plain except for the Shantung Hills (see Figure 2). Lack of adequate cloud-free imagery precluded determination of crop conditions in South China, but available meteorological data indicate wide-ranging precipitation variations in the south since late March; precipitation variations for selected rice- and winter wheat-growing provinces are charted (see Figure 3).

(S) Drought conditions reported in the Chinese press have been confirmed by imagery as severe in Heilungkiang, Kirin, and Shantung Provinces. In central Kirin Province, LANDSAT imagery shows that the surface area of major reservoirs was slightly smaller in 1976 than in 1975, and by May 1977 water levels had dropped significantly (see Figure 4). Lower than normal precipitation has been received in this area since April 1976. Northward, in adjacent Heilungkiang Province, small drawdowns have also occurred in the reservoirs of that area.

(S) LANDSAT imagery shows a significant reduction of reservoir levels in Shantung Province (see Figure 5). Below normal precipitation in the Shantung Hills between September 1976 and April 1977 was eased by above normal rainfall during the last third of April and in the middle of May. Despite low water levels, which may have been caused by irrigation drawdowns, LANDSAT imagery reveals that early crops show good infrared reflectance in southern Shantung and northern Kiangsu Provinces. Chinese public statements from Anhwei Province reported a serious drought "rarely seen in a hundred years." Although overall provincial precipitation for September 1976 through May 1977 has been 90 percent of normal, there have been marked departures in some areas. Press reports and meteorological data indicate that the main

area of drought in Anhwei is in the two northernmost prefectures, but [redacted] does not allow confirmation of the severity and extent of the drought. [redacted] high water and favorable crop conditions exist along the Yangtze River in southeastern Anhwei Province.

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(S) Elsewhere, higher water levels than last year [redacted] in central Shansi Province, and along the Yangtze River in southern Hupeh and southern Kiangsu Provinces. [redacted] widespread drought in Fukien Province, but waterbodies in those limited areas [redacted] near the coast were nearly full. Favorable crop conditions [redacted] the coastal areas of Kwangtung Province. Meteorological data and press reports indicate that the May rains in South China came too late to bring about a complete recovery of the early rice crop; in some areas intermediate rice had to be planted in its place.

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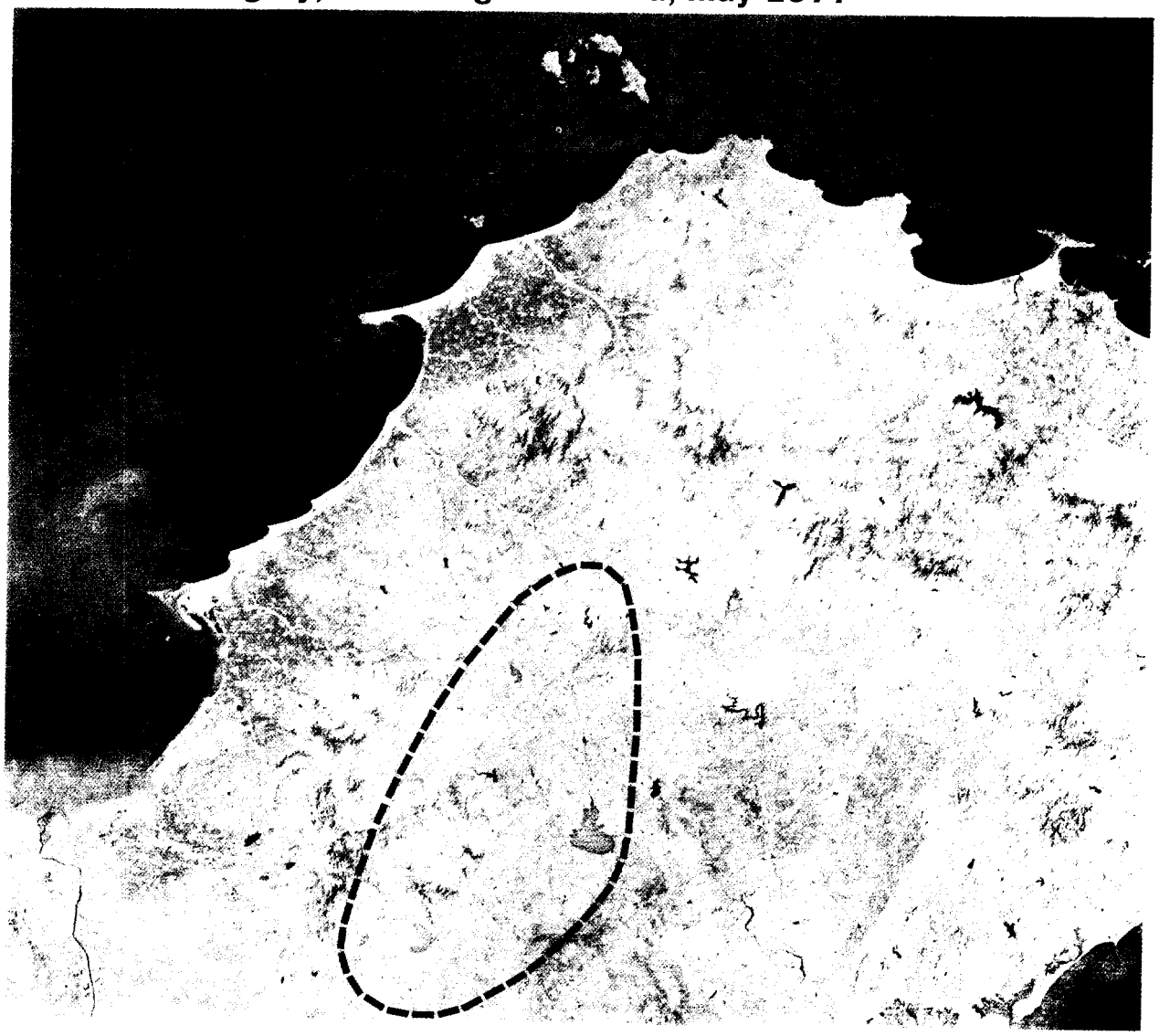
Landsat II Imagery, Shantung Peninsula, May 1977

Figure 2



The Red along the northern coast indicates high plant vigor. (The tan and gray spots within the red are villages and towns.) Farther inland the crop condition is only fair. Water levels in reservoirs (within the dashed line) are slightly lower than in 1976.

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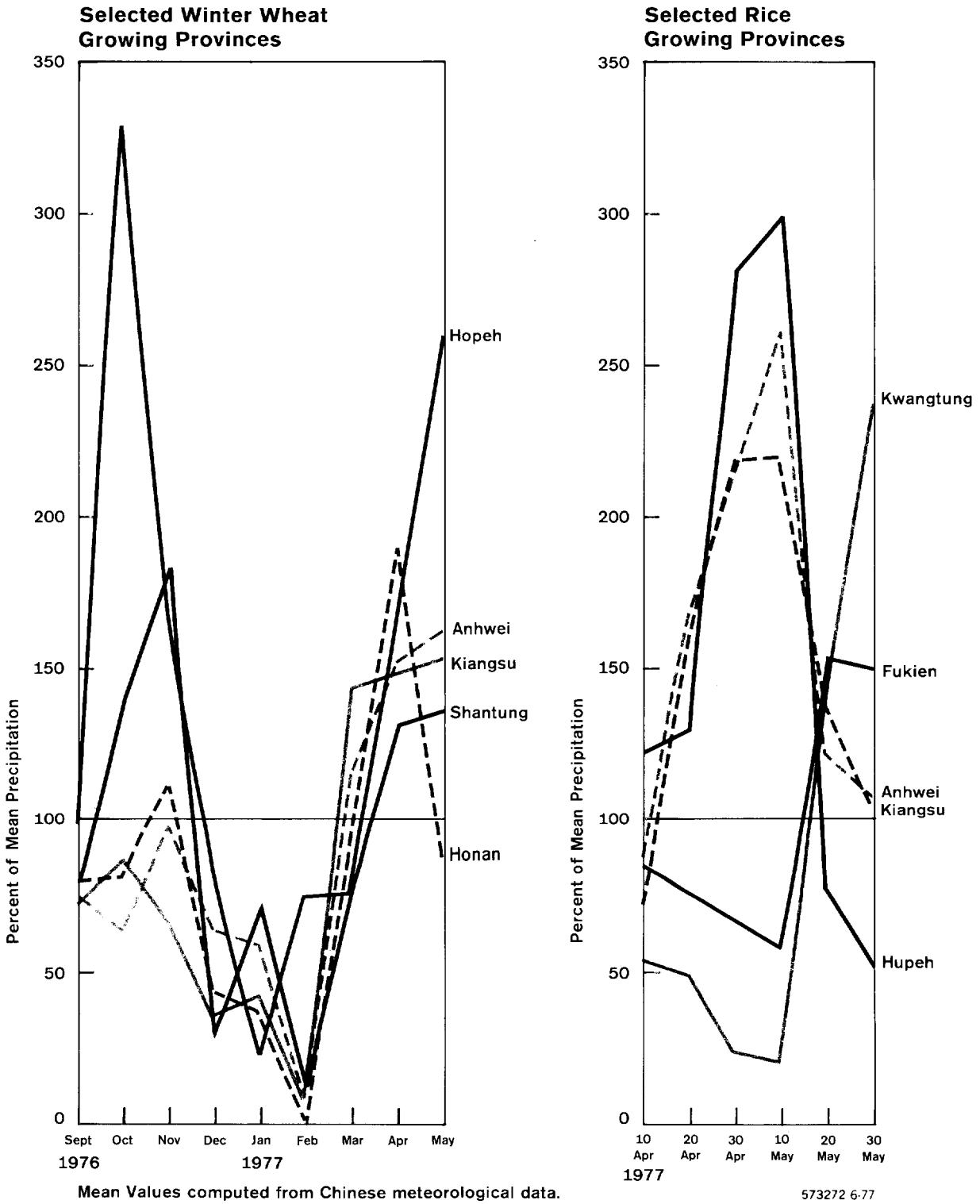
Figure 3

Precipitation Variations from Mean:



Mean Values computed from Chinese meteorological data.

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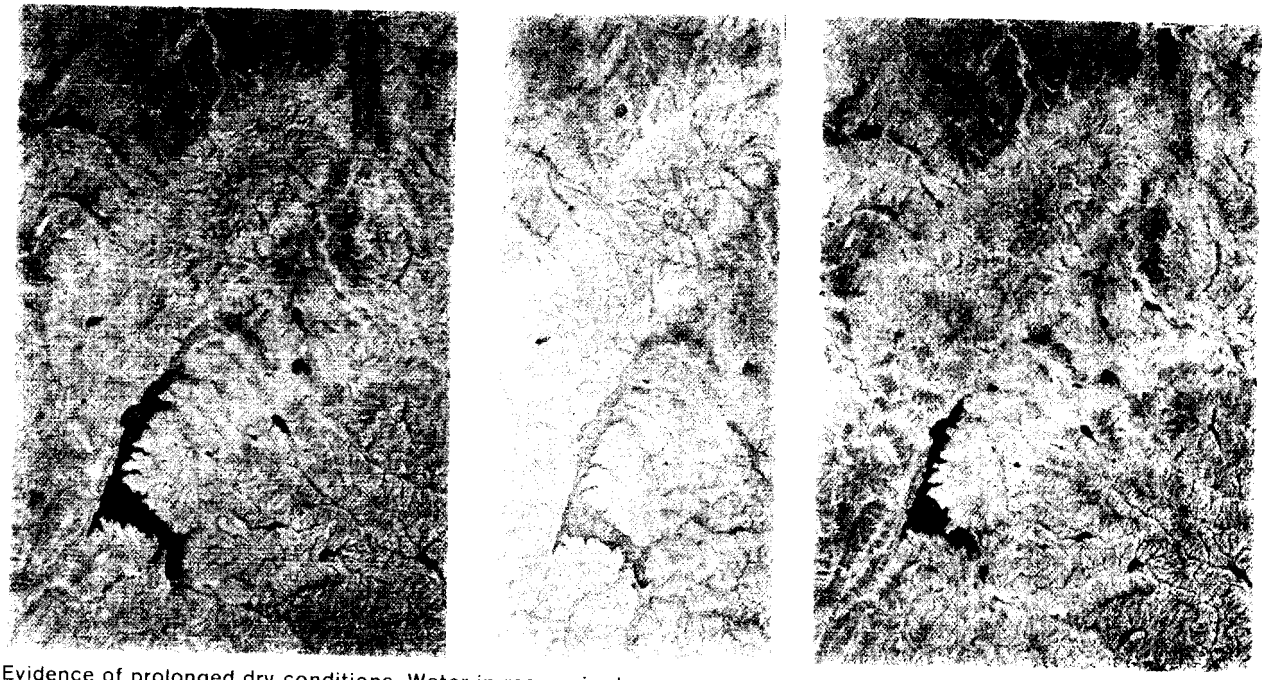
Landsat II Imagery, Kirin Province

Figure 4

April 1975 | May 1976 | May 1977



Evidence of prolonged dry conditions. Water in reservoirs has receded over the two year period.

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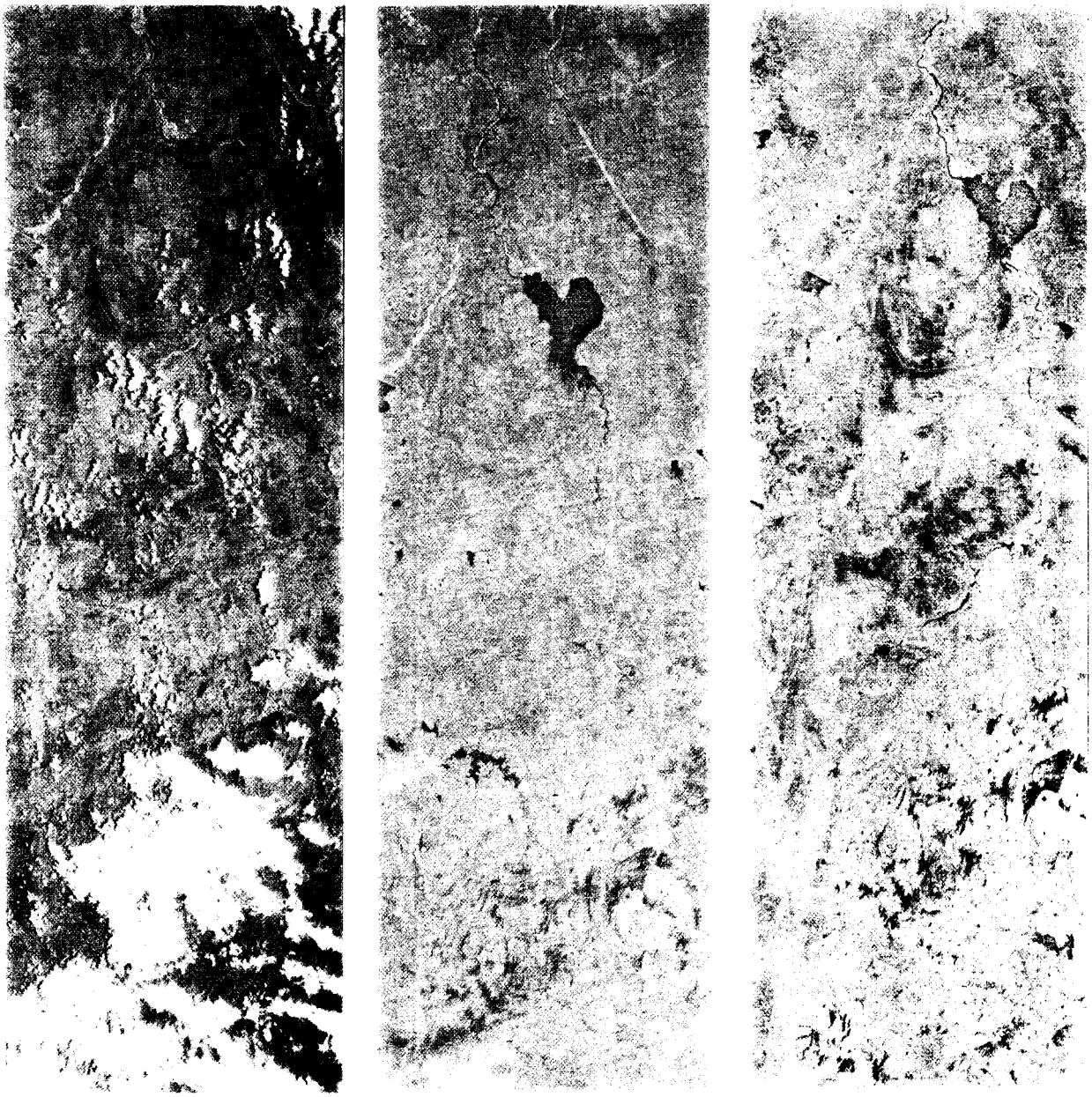
Landsat II Imagery, Shantung Province

Figure 5

May 1976 | September 1976 | April 1977



Severity of drought is indicated by the decrease in the amount of water in reservoirs over the one year period. Water in the reservoirs decreased slightly from May to September 1976, and some of the reservoirs were almost dry as of April 1977.

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